Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection
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November 6, 2014

Mr. Robert P. Baldelli
Site Manager
CPI Radant Technologies Division
255 Hudson Road
Stow, MA 01775

RE: CLINTON
Transmittal No.: X260641
Application No.: CE-14-009
Class: SM25
FMF No.: 539295
AIR QUALITY PLAN APPROVAL

Dear Mr. Baldelli:

The Massachusetts Department of Environmental Protection ("MassDEP"), Bureau of Waste Prevention, has reviewed your Non-major Comprehensive Plan Application ("Application") listed above. This Application concerns the proposed construction and operation of the spray operations at CPI Radant Technologies Division located at 100 Adams Road in Clinton, Massachusetts ("Facility"). The Facility is owned by the Communications & Power Industries LLC. The Application bears the seal and signature of Mr. Thomas Couture, Massachusetts Registered Professional Engineer No. 27553.

This Application was submitted in accordance with 310 CMR 7.02 Plan Approval and Emission Limitations as contained in 310 CMR 7.00 "Air Pollution Control" regulations adopted by MassDEP pursuant to the authority granted by Massachusetts General Laws, Chapter 111, Section 142 A-N, Chapter 21C, Section 4 and 6, and Chapter 21E, Section 6. MassDEP's review of your Application has been limited to air pollution control regulation compliance and does not relieve you of the obligation to comply with any other regulatory requirements.

MassDEP has determined that the Application is administratively and technically complete and that the Application is in conformance with the Air Pollution Control regulations and current air pollution control engineering practice, and hereby grants this **Plan Approval** for said Application, as submitted, subject to the conditions listed below.

Please review the entire Plan Approval, as it stipulates the conditions with which the Facility owner/operator ("Permittee") must comply in order for the Facility to be operated in compliance with this Plan Approval.

1. DESCRIPTION OF FACILITY AND APPLICATION

CPI Radant Technologies Division currently operates a manufacturing facility at 100 Adams Road, Clinton, Massachusetts. The existing Facility designs, manufactures, and tests advanced composite radomes, reflector antennas, and structures for defense, aerospace, and naval applications. A radome is a weatherproof structure that encloses and protects a microwave antenna without interfering with the antenna's ability to transmit or receive electromagnetic signals. The Facility currently operates one spray booth and proposes to install a second booth to accommodate an increase in production.

Based on customer specification, the manufacturing starts with layering special composite materials into a mold. Then the product is vacuum sealed and cured in an oven. Next the product is coated in either of the two spray booths. First a light coat of un-thinned primer is applied to the product. After curing in the spray booth, the product is sanded, the final coat applied, and then cured again in the spray booth. The paint is mixed in a sealed can using a mechanical paint agitator in a small ventilated room between the two spray booths.

Spray Booth No. 2, like Spray Booth No. 1, manufactured by Global Finishing Solutions Inc. will have a two-layered polyester filter structure pads. According to the manufacturer's specifications, this filter operates with 99.47% overall Particulate Matter collection efficiency. Each spray booth both will have a separate stack that discharges vertically upward as specified in Table 7.

Radant operates one Pro-Wash Model 112-634 fully-enclosed gun cleaner which is located near the coating operation. Surface preparations used do not contain any Volatile Organic Compounds ("VOC"), Hazardous Air Pollutant ("HAP"), or acetone.

The Facility may be subject to the Federal National Emission Standards for Hazardous Air Pollutants ("NESHAP") for Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources (40 CFR Part 63 Subpart HHHHHH). Since MassDEP has not accepted delegation for Subpart HHHHHH for area sources, you are advised to consult with the U.S. EPA for additional information. There may be additional notification, record keeping and reporting requirements. Their address is US EPA Region 1, 5 Post Office Square – Suite 100, Boston, MA 02109-3912.

The Permittee has demonstrated that the operation of the second spray booth will meet the Allowable Ambient Air Limit ("AAL"), and Threshold Emission Limit ("TEL"), values of 11.80 micrograms per cubic meter for xylene. MassDEP has reviewed the air quality dispersion modeling report that was included as part of this Application. The modeling report demonstrates that the second spray booth, when operated at the times specified in Table 6, will not cause an exceedance of the AAL and TEL values for xylene.

MassDEP has determined that the fully-enclosed spray booths with over 99-percent capture of paint overspray meet the Best Available Control Technology ("BACT") requirement for Particulate Matter. BACT for VOC and HAP will be achieved by using High Volume Low Pressure ("HVLP") spray guns, fully-enclosed spray gun washer, best management practices ("BMP"), and proper personnel training in accordance with Table 6 of this Plan Approval.

2. EMISSION UNIT IDENTIFICATION

Each Emission Unit ("EU") identified in Table 1 is subject to and regulated by this Plan Approval:

Table 1

EU	Description	Design Capacity	Pollution Control Device (PCD)
1	Spray Booth No. 1	n/a	none
2	Spray Booth No. 2	n/a	none

Table 1 Key:

EU = Emission Unit Number PCD = Pollution Control Device

3. APPLICABLE REQUIREMENTS

A. OPERATIONAL, PRODUCTION and EMISSION LIMITS

The Permittee is subject to, and shall not exceed the Operational, Production, and Emission Limits as contained in Table 2:

Table 2

EU	Operational / Production Limit	Air Contaminant	Emission Limit
1		PM	0.5 TPM and 0.5 TPY
		VOC	1.0 TPM and 2.5 TPY
		HAP (total)	1.0 TPM and 2.5 TPY
2		PM	0.5 TPM and 0.5 TPY
		VOC	1.0 TPM and 2.5 TPY
		Xylene (single HAP)	9.65 lb/hr, 0.2 TPM and 2.0 TPY
		HAP (total)	1.0 TPM and 2.5 TPY
Facility-wide		PM	0.5 TPM and 0.5 TPY
		VOC	1.0 TPM and 4.0 TPY
		Xylene (single HAP)	0.2 TPM and 2.0 TPY
		HAP (total)	1.5 TPM and 4.0 TPY
		Opacity	0%

Table 2 Key:

EU = Emission Unit Number
TPM = tons per month
TPY = tons per consecutive12-month period
PM = Filterable Particulate Matter
VOC = Volatile Organic Compounds
HAP (single) = maximum single Hazardous Air Pollutant
HAP (total) = total Hazardous Air Pollutants.

B. COMPLIANCE DEMONSTRATION

The Permittee is subject to, and shall comply with, the monitoring, testing, record keeping, and reporting requirements as contained in Tables 3, 4, and 5:

Table 3

EU	Monitoring and Testing Requirements
1 and 2	1. The Permittee shall monitor material usage (including paint, thinner, xylene content, and solids content of all materials used) on a daily basis, so that the emissions of VOC, xylene, HAP, and PM can be calculated to demonstrate compliance with the emission limits specified in Table 2 above.
	2. The Permittee shall monitor the Manometer gauge on the filter continuously and change the filters according to the Standard Operating and Maintenance Procedures (SOMP) of the manufacturer.
Facility-wide	3. The Permittee shall monitor all operations to ensure sufficient information is available to comply with 310 CMR 7.12 Source Registration.
	4. If and when MassDEP requires it, the Permittee shall conduct emission testing in accordance with USEPA Reference Test Methods and Regulation 310 CMR 7.13.
	5. At least 30 days prior to emission testing, the Permittee shall submit to MassDEP for approval a stack emission pretest protocol.
	6. Within 45 days after emission testing, the Permittee shall submit to MassDEP a final stack emission test results report.

Table 3 Key:

EU = Emission Unit Number
PM = Particulate Matter
VOC = Volatile Organic Compounds
HAP = Hazardous Air Pollutant

Table 4

EU	Record Keeping Requirements
1 and 2	1. The Permittee shall maintain adequate records on-site to demonstrate compliance with all operational, production, and emission limits contained in Table 2 above. Daily records shall be prepared and maintained to demonstrate compliance for each calendar month. Such records shall include, but are not limited to: 1) For each coating, as applied: i) Spray time and duration; ii) Gallons of coating used; iii) Coating density (Pounds per gallon); iv) Pounds of VOC per gallon of coating; v) Pounds of solids per gallon of coating; vi) Pounds of each HAP per gallon of coating; vii) Pounds of other non-VOC liquid per gallon of coating; and viii) Pounds of VOC per gallon of solids as applied. 2) Gallons of cleanup solution used and pounds VOC per gallon; and 3) Maintenance records of filter pad replacement and disposal. Records shall also include the actual emissions of air contaminant(s) emitted for each calendar month and for each consecutive twelve-month period (current month plus prior eleven months). These records shall be compiled no later than the 15th day following each month. An electronic version of the MassDEP approved record keeping form, in Microsoft Excel format, can be downloaded at http://www.mass.gov/eea/agencies/massdep/air/approvals/limited-emissions-record-keeping-and-reporting.html#WorkbookforReportingOn-SiteRecordKeeping.
Facility-wide	2. The Permittee shall maintain records of monitoring and testing as required by Table 3.
	3. The Permittee shall maintain a copy of this Plan Approval, underlying Application and the most up-to-date SOMP for the EU(s) approved herein on-site.
	4. The Permittee shall maintain a record of routine maintenance activities performed on the approved EU(s) and monitoring equipment. The records shall include, at a minimum, the type or a description of the maintenance performed and the date and time the work was completed.
	5. The Permittee shall maintain a record of all malfunctions affecting air contaminant emission rates on the approved EU(s) and monitoring equipment. At a minimum, the records shall include: date and time the malfunction occurred; description of the malfunction; corrective actions taken; the date and time corrective actions were initiated and completed; and the date and time emission rates and monitoring equipment returned to compliant operation.
	6. The Permittee shall maintain records to ensure sufficient information is available to comply with 310 CMR 7.12 Source Registration.
	7. The Permittee shall maintain records required by this Plan Approval on-site for a minimum of five (5) years.
	8. The Permittee shall make records required by this Plan Approval available to MassDEP and USEPA personnel upon request.

Table 4 Key:

EU = Emission Unit Number
VOC = Volatile Organic Compounds
HAP = Hazardous Air Pollutants
USEPA = United States Environmental Protection Agency
SOMP = Standard Operating and Maintenance Procedure

Table 5	
EU	**Reporting Requirements**
2	1. The Permittee shall notify MassDEP in writing within 5 business days of the date the stack for the second booth is modified and is deemed operational.
Facility-wide	2. The Permittee shall submit to MassDEP all information required by this Plan Approval over the signature of a "Responsible Official" as defined in 310 CMR 7.00 and shall include the Certification statement as provided in 310 CMR 7.01(2)(c).
	3. The Permittee shall notify the Central Regional Office of MassDEP, BWP Permit Chief by telephone: 508-767-2845, email: CERO.Air@massmail.state.ma.us, or fax : 508-792-7621 as soon as possible, but no later than three (3) business day after discovery of an exceedance(s) of Table 2 requirements. A written report shall be submitted to Permit Chief at MassDEP within ten (10) business days thereafter and shall include: identification of exceedance(s), duration of exceedance(s), reason for the exceedance(s), corrective actions taken, and action plan to prevent future exceedance(s).
	4. The Permittee shall report every three years to MassDEP, in accordance with 310 CMR 7.12, all information as required by the Source Registration/Emission Statement Form. The Permittee shall note therein any minor changes (under 310 CMR 7.02(2)(e), 7.03, 7.26, etc.), which did not require Plan Approval. Pursuant to 7.12(1)(a)7., the Permittee is required to file Source Registration as a condition of this Plan Approval.
	5. The Permittee shall provide a copy to MassDEP of any record required to be maintained by this Plan Approval within 30 days from MassDEP's written request.

Table 5 Key:

EU = Emission Unit Number
CMR = Code of Mass. Regulations

SPECIAL TERMS AND CONDITIONS

A. The Permittee is subject to, and shall comply with, the Special Terms and Conditions as contained in Table 6 below:

Table 6

EU	Special Terms and Conditions
1	1. The coatings containing xylene shall not be used in Spray Booth No. 1.
2	2. The coatings containing xylene shall only be sprayed between the operating hours of 14.00- 16.00 (2:00-4:00 PM) for a maximum of 90 minutes on Monday through Friday only.
	3. The maximum application rate, using Binks M1-G HVLP spray gun fitted with the 97 Fluid Nozzle and 93 P Air Nozzle combination, or equivalent, shall not exceed 9.8 ounces per minute which equates to 4.59 gallons per hour.
	4. The Permittee shall install the exhaust stack (as specified in Table 7) prior to painting in Spray Booth No. 2.
1 and 2	5. The Permittee shall follow the Standard Operating and Maintenance Procedures (SOMPs) for the subject emission units so as to maintain their efficient operation and minimize emissions of VOC and HAP.
	6. Spray guns shall utilize HVLP spray application and be maintained and operated in accordance with the recommendations of the manufacturer.
	7. Each paint spray booth shall utilize two or more layers of dry fiber mat filter with a total thickness of at least two inches or an equivalent system that achieves particulate control efficiency of at least 99.47% by weight. Filter material shall be disposed in accordance with all applicable DEP regulations.
	8. The Permittee shall have a "Go Switch" system installed to automatically shut down spraying when the spray booth door is opened.
	9. Spray guns shall be cleaned in a closed container that: i) minimizes solvent evaporation during the cleaning, rinsing, and draining operations; ii) recirculates solvent during the cleaning operation so that the solvent is reused; and iii) collects spent solvent in a container with a tight-fitting cover so that it is available for proper disposal or recycling.
	10. The face velocity of air at the spray booth filters shall not exceed 200 feet per minute.
Facility-wide	11. The Permittee shall comply with the following best management practices: i) The use of solvent containers that minimize solvent losses; ii) The use of solvent containers that avoid excessive transferring or pouring of solvents; and iii) At all times, covering the solvent containers, including waste collection containers, except when materials are being added or removed from the container.
	12. The Permittee shall train new employees on the best management practices for spray painting within 30 days of their employment. Employees on staff on November 6, 2014 will be trained on the best management practices for spray painting by January 5, 2015. Refresher training will occur annually between November and January.
	13. The Permittee shall continue research for alternative paint with lower VOC or HAP content.
	14. The Permittee shall not allow nuisance odors caused by the operation of production lines beyond the Facility boundary as determined by MassDEP.

Table 6 Key:

EU = Emission Unit Number
VOC = Volatile Organic Compounds
HAP = Hazardous Air Pollutants.
SOMP = Standard Operating and Maintenance Procedure
HVLP = High Volume Low Pressure

B. The Permittee shall install and use an exhaust stack, as required in Table 7, on each of the Emission Units that is consistent with good air pollution control engineering practice and that discharges so as to not cause or contribute to a condition of air pollution. Each exhaust stack shall be configured to discharge the gases vertically and shall not be equipped with any part or device that restricts the vertical exhaust flow of the emitted gases, including, but not limited to, rain protection devices known as "shanty caps" and "egg beaters."

C. The Permittee shall install and utilize exhaust stacks with the following parameters, as contained in Table 7, for the Emission Units that are regulated by this Plan Approval:

Table 7

EU	Stack Height Above Ground (feet)	Stack Inside Exit Dimensions (feet)	Stack Gas Exit Velocity Range (feet per second)	Stack Gas Exit Temperature Range (^{o}F)
1	46	3	40	Ambient
2	56	3	60	Ambient

Table 7 Key:

EU = Emission Unit Number
^{o}F = Degree Fahrenheit

4. GENERAL CONDITIONS

The Permittee is subject to, and shall comply with, the following general conditions:

A. Pursuant to 310 CMR 7.01, 7.02, 7.09 and 7.10, should any nuisance condition(s), including but not limited to smoke, dust, odor or noise, occur as the result of the operation of the Facility, then the Permittee shall immediately take appropriate steps including shutdown, if necessary, to abate said nuisance condition(s).
B. If asbestos remediation/removal will occur as a result of the approved construction, reconstruction, or alteration of this Facility, the Permittee shall ensure that all removal/remediation of asbestos shall be done in accordance with 310 CMR 7.15 in its entirety and 310 CMR 4.00.

C. If construction or demolition of an industrial, commercial or institutional building will occur as a result of the approved construction, reconstruction, or alteration of this Facility, the Permittee shall ensure that said construction or demolition shall be done in accordance with 310 CMR 7.09(2) and 310 CMR 4.00.

D. Pursuant to 310 CMR 7.01(2)(b) and 7.02(7)(b), the Permittee shall allow MassDEP and / or USEPA personnel access to the Facility, buildings, and all pertinent records for the purpose of making inspections and surveys, collecting samples, obtaining data, and reviewing records.

E. This Plan Approval does not negate the responsibility of the Permittee to comply with any other applicable Federal, State, or local regulations now or in the future.

F. Should there be any differences between the Application and this Plan Approval, the Plan Approval shall govern.

G. Pursuant to 310 CMR 7.02(3)(k), MassDEP may revoke this Plan Approval if the construction work is not commenced within two years from the date of issuance of this Plan Approval, or if the construction work is suspended for one year or more.

H. This Plan Approval may be suspended, modified, or revoked by MassDEP if MassDEP determines that any condition or part of this Plan Approval is being violated.

I. This Plan Approval may be modified or amended when in the opinion of MassDEP such is necessary or appropriate to clarify the Plan Approval conditions or after consideration of a written request by the Permittee to amend the Plan Approval conditions.

J. Pursuant to 310 CMR 7.01(3) and 7.02(3)(f), the Permittee shall comply with all conditions contained in this Plan Approval. Should there be any differences between provisions contained in the General Conditions and provisions contained elsewhere in the Plan Approval, the latter shall govern.

5. MASSACHUSETTS ENVIRONMENTAL POLICY ACT

MassDEP has determined that the filing of an Environmental Notification Form (ENF) with the Secretary of Energy & Environmental Affairs, for air quality control purposes, was not required prior to this action by MassDEP. Notwithstanding this determination, the Massachusetts Environmental Policy Act (MEPA) and 301 CMR 11.00, Section 11.04, provide certain "Fail-Safe Provisions," which allow the Secretary to require the filing of an ENF and/or an Environmental Impact Report (EIR) at a later time.

6. APPEAL PROCESS

This Plan Approval is an action of MassDEP. If you are aggrieved by this action, you may request an adjudicatory hearing. A request for a hearing must be made in writing and postmarked within twenty-one (21) days of the date of issuance of this Plan Approval.

Under 310 CMR 1.01(6)(b), the request must state clearly and concisely the facts, which are the grounds for the request, and the relief sought. Additionally, the request must state why the Plan Approval is not consistent with applicable laws and regulations.

The hearing request along with a valid check payable to the Commonwealth of Massachusetts in the amount of one hundred dollars ($100.00) must be mailed to:

Commonwealth of Massachusetts
Department of Environmental Protection
P.O. Box 4062
Boston, MA 02211

This request will be dismissed if the filing fee is not paid, unless the appellant is exempt or granted a waiver as described below. The filing fee is not required if the appellant is a city or town (or municipal agency), county, or district of the Commonwealth of Massachusetts, or a municipal housing authority.

MassDEP may waive the adjudicatory hearing-filing fee for a person who shows that paying the fee will create an undue financial hardship. A person seeking a waiver must file, together with the hearing request as provided above, an affidavit setting forth the facts believed to support the claim of undue financial hardship.

Enclosed is a stamped approved copy of the application submittal.

Should you have any questions concerning this Plan Approval, please contact Permit Writer by telephone at 508-767-2762, or in writing at the letterhead address.

Roseanna E. Stanley
Acting Permit Chief
Bureau of Waste Prevention

Enclosure

ecc: Clinton Board of Health
Clinton Fire Department
MassDEP/Boston - Yi Tian
Tighe & Bond, Inc